

# THE EVALUATION OF WEB SITE USABILITY IN TAIWAN

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## ABSTRACT

The design of the Web sites is a crucial determinant of whether visitors are willing to return to the site repeatedly. This study aims to investigate the Web site usability in 5 different industries in Taiwan. The results indicated that there is a gap between user assessment of weights and the actual usability rates of Web sites. Specifically, most Web sites emphasize their “promotion”, with the hope to entice customers to visit. Unfortunately, those Web sites do not realize that providing content in good quality and interface that is easy to use would be key for success. Moreover, the usability scores differ in different industries.

## INTRODUCTION

Since the wide distribution of World Wide Web, the Web was estimated to be more than 800 million pages [4] and 1 billion users on 2005 [5]. To the Internet consumer, the Web site is a gateway that fully represents the store. Therefore, the design of the Web sites is a crucial determinant of whether visitors are likely to return to the site [3] and of consumer satisfaction with Internet shopping [1]. Nevertheless, most companies built Web sites that were unusable in terms of ease of use, comprehension, reliability, and performance [2]. Although a considerable number of studies have addressed the importance of Web site usability, there is little specific empirical research in examining the performance of these sites. Thus, the primary purpose of this study is to adopt heuristic evaluation method to examine the Web site usability in Taiwan.

## RESEARCH METHODOLOGY

### **Instrument**

[7] suggests validating instruments through pretesting and/or piloting using previously validated instruments wherever possible. Thus, instrument proposed by Microsoft, the Microsoft Usability Guideline (MUG), which had been utilized and verified in [1] was adopted in this study. The instrument includes five major categories: content, ease of use, promotion, made-for-the-medium and emotion. Four of the five categories have subcategories that are meant to represent various dimensions of the major category, and these categories are expected to cover the range of usability-related aspects of a Web site.

### **Samples and procedures**

The sample sites were selected from a list of top 500 Web sites in Taiwan. The original list comprised a broad range of 26 industries. Industries including ISP, government, business, e-learning, chat room...etc, and industries with Web sites less than 5 were eliminated. Only 5 industries were remained, and they are: portal, media and news, banking, e-commerce and healthcare.

To ensure the reliability of usability evaluation, 42 Internet users were recruited as evaluators. The research process was composed of 3 steps: weights, ratings, and overall ratings. First, each evaluator provides the relative importance (weights) of the different categories in the instrument. In the next step, users provide ratings for specific Web sites on various subcategories in the same instrument used in the first step. The weights and ratings together are then used to assess the overall usability for each site. Lastly, the evaluators were asked to give the overall usability rating measured by a multi-item scale.

## **RESULTS AND ANALYSIS**

Such Web sites whose data are not valid across all the evaluators are not included in further analysis. For construct validity, we examine how closely the calculated usability relates to a multi-item scale of overall usability. In this study, only the Web sites with the correlation above 0.7 and reached the significance level of 0.05 were remained in the sample reduction process. With this step, the 80 Web sites were reduced to 25. Furthermore, the reliability of instrument was examined by using Cronbach's alpha. Reliability of each category was above 0.8, as suggested by [6].

### **User assessment of weights**

Means of the user assessment of weights indicated that "content" and "ease of use" were the two weightiest categories among the 5 industries. Specifically, "current information" and "relevance" were the two most important sub-categories in content. In addition, the third important category is "made-for-the-medium", of which "personalization" and "refinement" are the most two heavy subcategories.

### **User assessment of usability**

Usability scores were calculated using user assessment of weights and rating scores provided by the users. The results demonstrated that all the Web sites got usability scores about 5 to 7. This figure surprised us, because all the samples were selected from the list of top 500 Web sites in Taiwan, which were expected to perform well in their Web site usability. However, the results showed that the design of Internet Web sites in Taiwan remains in need of improvement.

Overall, the usability scores of portal and banking were the highest, followed by e-commerce, media and news and healthcare. Moreover, we found that most Web sites devoted themselves to promote in order to entice customers to visit, yet Internet users weight heavily on content and ease-of-use categories. Obviously, there existed a gap between the user expectation and actual usability scores. The implication would be that owners of the Web sites should improve their design on content and ease-of-use, rather than promoting themselves, to increase the "stickiness" of their customers.

In the category of “ease of use”, portal sites performed the best, followed by healthcare, media and news, banking and e-commerce sites. Most banking and e-commerce Web sites are good at providing feedback mechanism to interact with their customers. Unfortunately, they are not able to provide clear goals, especially those for customers of Internet banks. As of sub-categories in “content”, all the Web sites are able to present timely information, but lack their ability in using such media as pictures, music or multimedia to make the Web site more vivid.

## CONCLUSIONS AND DISCUSSIONS

This study aims to evaluate the Web site usability in Taiwan. 42 Web site users were recruited as evaluators and the sample sites comes from 5 different industries including portal, media and news, banking, e-commerce and healthcare. Overall, the Web site usability rates of portal and banking were the best among 5 industries, followed by e-commerce, media and news and healthcare sites. Moreover, the results also showed that there is discordance between the user assessment of weights and usability scores. In fact, if developers of the Web sites could take the “content” and “ease of use” into account when designing their Web sites, customers would thus keep coming back.

Furthermore, although most Web sites did provide feedback mechanism for their customers, goals are not clear enough. Hence we suggest that the appropriate utilization of media such as music, background, and multimedia would be encouraged and community or discussion groups could also be established to increase the interactivity with customers. In sum, most Web sites have much to improve in their Web sites, and they are only in the very beginning stages in terms of usability. Establishing a good Web site with usability could increase customer’s satisfaction and intention to return, thus leads to the success of a business. Specifically, content and ease of use are the most two important categories to be concerned in designing Web sites.

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